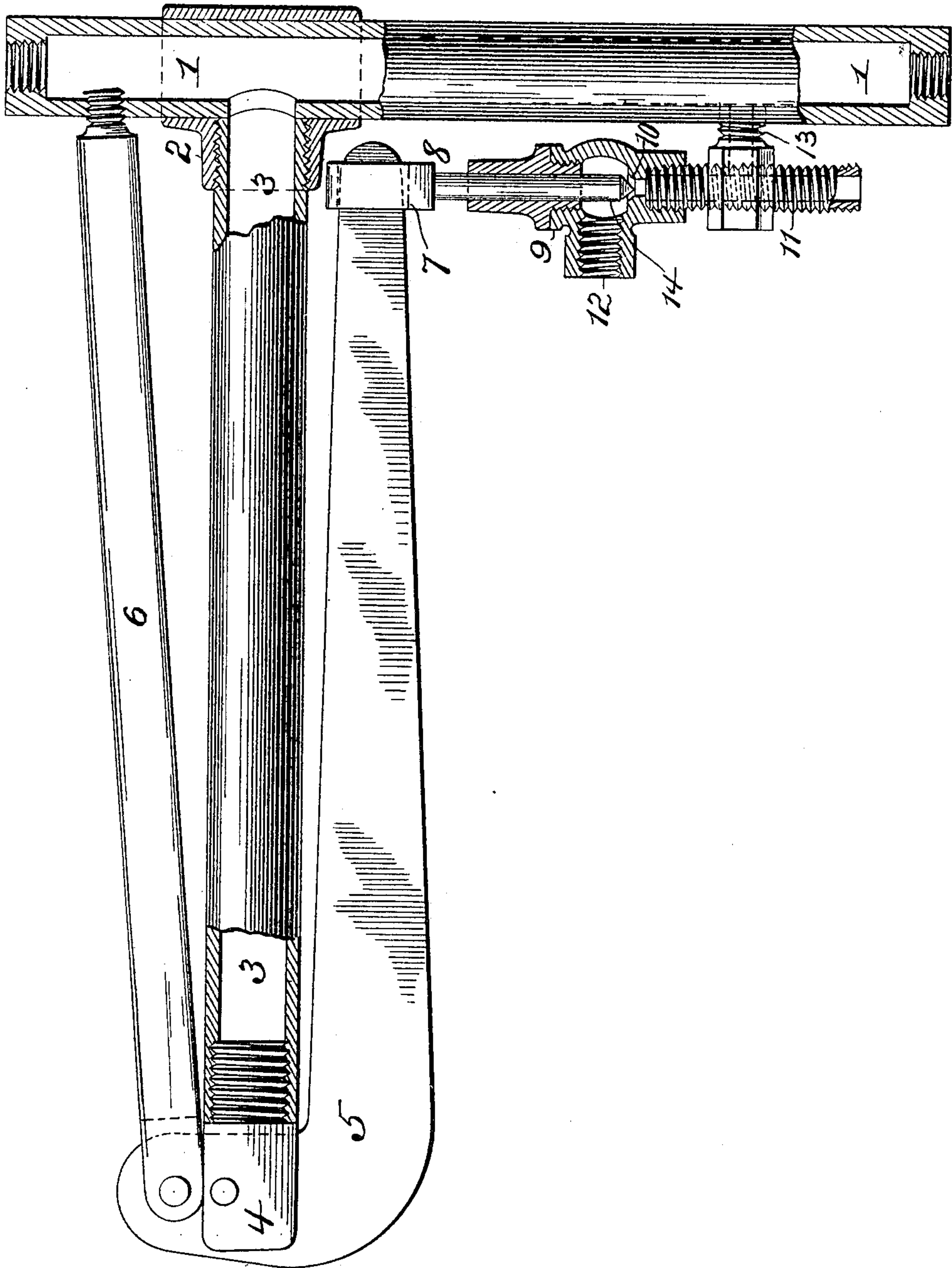


No. 819,078.

PATENTED MAY 1, 1906.

E. G. OFELDT.
FEED WATER REGULATOR.
APPLICATION FILED JAN. 18, 1905.



WITNESSES
E. Nottingham
G. J. Downing

INVENTOR
E. G. Ofeldt
By H. A. Seymour
Attorney

UNITED STATES PATENT OFFICE.

ERNEST G. OFELDT, OF BROOKLYN, NEW YORK.

FEED-WATER REGULATOR.

No. 819,078.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed January 18, 1905. Serial No. 241,693.

To all whom it may concern:

Be it known that I, ERNEST G. OFELDT, a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Feed-Water Regulators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved feed-water regulator, and more particularly to an improved thermostatic, and hence automatic, feed-water control, the object of the invention being to provide improvements of this character in which a lever is operated by the expansion and contraction of a pipe due to the presence of steam or water in the pipe, and said lever operates directly a by-pass or water-escape valve with which the lever is directly connected; and the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

The accompanying drawing is a view, partly in elevation and partly in section, illustrating my improvements.

1 represents a vertical pipe which extends above and below the water-level of the boiler and connected at its ends with the latter. A T-coupling 2 is located between the ends of this pipe 1 and at the normal water-level of the boiler, and a long horizontal thermostatic tube 3 is connected with said coupling 2 and closed at its outer end and pivotally secured by a pin 4 with the shorter member of an L-shaped lever 5. The end of this shorter member of the lever 5 is pivotally secured and the lever fulcrumed in the bifurcated end of a long bar or rod 6, secured to pipe 1 above coupling 2. The long member of lever 5, which is in a normal horizontal position below tube 3, projects into a slot 7 in the end of a valve-stem 8. This stem 8 has a plug-valve 14 at its lower end and projects into a coupling 9, which provides a valve-seat 10 at the end of a water-supply pipe 11 and in advance of an exhaust pipe or outlet 12, and said supply-pipe 11 is connected below its valved end with pipe 1 by a short pipe 13.

Supply-pipe 11 receives water from any suitable form of pump continuously forcing water therethrough. When water falls below the desired level in the boiler, steam will enter tube 3 and expand the same, the consequent movement of tube 3 causing the longer end of lever 5 to descend and force the valve 14 tight against its seat 10 and compelling the water from supply-pipe 11 to pass through pipes 13 and 1 into the boiler. When the desired level in the boiler has been reached, water will displace the same in pipe 2, and the latter will contract, raising lever 5 and opening valve 14, permitting the excess of water to by-pass and escape through outlet 12.

Slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I would have it understood that I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a pipe adapted at its ends to communicate with a boiler, of a thermostatic tube carried by said pipe and communicating therewith, a rod or bar secured to said pipe and projecting outwardly therefrom, a lever pivoted to the free end of said rod and to the thermostatic tube, said lever having a long arm projecting toward said pipe, a by-pass valve attached to and communicating with said pipe, and a connection between the stem of said valve and the long arm of the lever.

2. In an apparatus of the character described, the combination with a vertical tube communicating at its ends with the boiler above and below the normal water-level of the boiler, of a horizontal thermostatic tube communicating with the pipe and located at or near the normal water-level of the boiler, a rod or bar secured to the pipe above the tube, an L-shaped lever fulcrumed at the end of its shorter member to said bar or rod, and connected between the ends of its shorter mem-

ber with the end of the tube, a water-supply
pipe, a by-pass valve to close the end of said
tube, a pipe connecting the supply-pipe with
the first-mentioned pipe below the by-pass
5 valve, and said valve connected with and op-
erated directly by the longer member of said
lever

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

ERNEST G. OFELDT.

Witnesses:

C. OLBERT,
H. T. EATON.